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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/779,842

02/18/2004

Jong Woo Kim

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03/27/2008

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EXAMINER

DUDEK, JAMES A

ART UNIT

PAPER NUMBER

2871

MAIL DATE

DELIVERY MODE

03/27/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/779,842	Applicant(s) KIM ET AL.	
	Examiner /James A. Dudek/	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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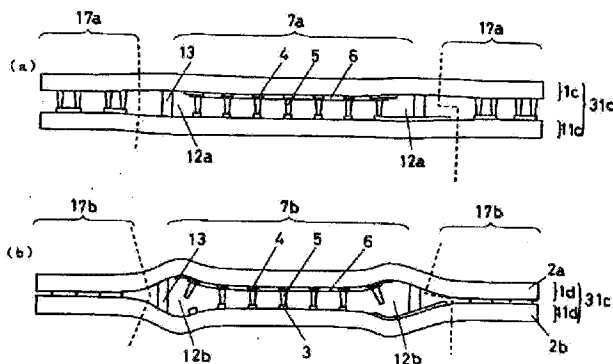
DETAILED ACTION***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-5, 7-8 and 10-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over 2002-333628 (628) in view of 5511591 (591).



Per claim 1, 628 teaches a method of fabricating a liquid crystal display device, comprising:

preparing first and second substrates having an active area [7a] and a dummy area [17a];
forming at least one first column spacer on the active area on the second substrate [5];

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forming at least one second column spacer in the dummy area on the second substrate [spacer 5 formed in region 17a];

forming a sealant in a periphery of the active area of the second substrate [seal 13] wherein the second column spacers are formed out of the peripheral area [see spacers 5 outside the in region 17a]; and

bonding the first and second substrates to each other [see figures] and wherein forming a liquid crystal layer comprises dispensing a liquid crystal on one of the first and second substrate.

628 lacks the step of dispensing a liquid crystal on one of the first and second substrate prior to the bonding of the first and second substrates to each other. However, 591 teaches dispensing the liquid crystal onto a substrate prior to bonding the substrates. 591 teaches reduced costs and increase quality at column 1, lines 36-49 as a benefit of using 59's dispensing methods. *Accordingly, it would have been obvious to one of ordinary skill at the time of invention* to combine the dispensing of 591 with the method of 628.

628 teaches the second and third spacers place inside and outside the seal. See the spacers near the seal at the right side of the substrate in the figure above. The space is in the dummy area as it is place on the lower electrode extending from outside the seal to inside the seal. The third space is in area 17a.

Per claim 6, 628 teaches the method of claim 1, further comprising forming at least one third column spacer outside the active area of the second substrate [plurality of spacers 5 in off-display area]

Per claims 10, 628 teaches the method of claim 1, further comprising forming a liquid crystal layer between the first and second substrates [LC 40].

Per claim 11, 628 teaches the method of claim 1, but lacks the step of forming a silver pattern in a periphery of the active area of the first substrate. However it was well known to form silver paste at the periphery of the substrate in order to connection control circuitry. *Accordingly, it would have been obvious to one of ordinary skill at the time of invention.*

Per claim 15, 628 teaches the method of claim 1, wherein the first column spacer is formed on the wiring part of the first substrate [see figures].

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Per claim 16 and 17, 628 teaches the method of claim 1, further comprising: forming a black matrix and a color filter layer on the second substrate; and forming an overcoat layer on the color filter layer [see paragraph starting at line 7 on page 10].

Claim 18 is inherent.

Per claim 19, 628 teaches the step of forming a dummy color filter layer on the periphery of the active area of the second substrate [the spacers 5 are formed from color filters.]

Per claims 2-3, 5, 8 and 14, 628 teaches the method of claim 1, but lacks the sealant formed of an organic photo-hardening sealant including uv hardening sealant. However, it was well known to use mixtures of organic photo and thermo hardening seals to ensure a tight seal. Accordingly it would have been obvious to one of ordinary skill at the time of invention to combine the well known photo/thermo seal with 628.

Per claims 4 and 7, 628 teaches the method of claim 1, but lacks the first and second column spacers are about 5 to 30 microns in width. However it was a matter of design when choosing the widths. If the width is smaller, then the aperture increase and more light will pass. But the space accuracy will decrease. On the other hand, if the width is increased, less light will pass, but the space accuracy will increase. It would have been obvious to one of ordinary skill at the time of invention to choose a width between 5 and 30 microns.

Per claim 12, 628 teaches the method of claim 1, but lacks the steps of bonding the first and second substrates to each other includes: loading the second substrate on an upper stage of a bonding machine to face into the first substrate; loading the first substrate on a lower stage of the bonding machine; evacuating a chamber of the bonding machine; aligning the first and second substrates; and attaching the first and second substrates to each other. However, if not explicitly taught each of these method step are well known in the art to ensure proper gap spacing and alignment using an efficient method. Accordingly, it would have been obvious to one of ordinary skill at the time of invention.

Per claim 13, 628 teaches the method of claim 12, but lacks the step of venting the chamber to an atmospheric pressure to press the attached substrates by difference between an inner pressure of the bonded substrates and the atmospheric pressure and applying a UV-ray to the attached substrates to harden the sealant. However is was also well known to create a vacuum of at least one atmosphere to apply pressure on the substrates and use UV light to

harden the seal to ensure the liquid crystal is seal properly. It would have been obvious to one of ordinary skill at the time of invention.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Response to Arguments

Applicant's arguments filed 2/15/08 have been fully considered but they are not persuasive. 628 teaches the second and third spacers place inside and outside the seal. See the spacers near the seal at the right side of the substrate in the figure above. The space is in the dummy area as it is place on the lower electrode extending from outside the seal to inside the seal. The third space is in area 17a.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /James A. Dudek/ whose telephone number is 571-272-2290. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/James A. Dudek/
Primary Examiner
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